

CLAIMS:

1. A method of manufacturing a dental implant drill guide, comprising the steps of:

a) imaging a jawbone and tissue structure with a reference to a known anatomical reference to produce a three-dimensional computer graphics model;

b) selecting at least one implant drill hole position for at least one dental implant using said model, said position being specified in three dimensions, including a hole termination point and orientation, and being referenced to said anatomical reference,

c) entering at least one set of implant drill hole position coordinates into a computer controlled precision manufacturing device;

d) providing a drill template body having a first surface adapted to overlie a gum surface of the jawbone in a single predetermined position;

e) using said precision manufacturing device to provide a fixed orientation drill guide socket in said template body for each one of said at least one drill hole position entered in step (c) with a corresponding position and orientation.

2. The method as claimed in claim 1, further comprising imaging denture prosthesis and including an image of said denture prosthesis in said model such that a position of said prosthesis with respect to said jawbone can be seen, whereby said at least one implant drill hole position can be selected taking into account a position of said denture prosthesis with respect to said jawbone and tissue structure.

3. The method as claimed in claim 1, wherein said drill guide socket receives drill guide tubes having a variable internal diameter.

4. The method as claimed in claim 1, wherein said step (e) comprises drilling said implant drill holes into the drill guide supported on a physical model, and forming abutment surfaces on said drill guide on the basis of said implant drill hole position coordinates.

5. The method as claimed in claim 1, wherein said anatomical reference is said gum surface, and wherein said step (a) comprises preparing a scanner reference guide and carrying out radiographic imaging of said jawbone and tissue structure with said scanner reference guide secured with respect to said gum surface, and converting said radiographic imaging into data to produce said three-dimensional computer graphics model.

6. The method as claimed in claim 1, wherein step (b) comprises selecting at least two implant drill hole positions for at least two dental implants using said model, step (c) comprises entering at least two sets of implant drill hole position coordinates, and step (e) comprises using said precision manufacturing device to provide a fixed orientation drill guide socket in said template body for each one of said at least two drill hole positions.

7. A dental implant drill guide manufactured according to the method defined in claim 1.

8. The dental implant drill guide as claimed in claim 7, further comprising a plurality of holes for transitionally securing the drill guide to the patient's jawbone during surgery.

9. A method for allowing the reconstruction of an edentulous jawbone in a single surgical operation, comprising the steps of:

a) creating a three-dimensional graphic computer model of a patient's gum, jawbone and tissue structure, and of a dental prosthesis to be placed over the gum;

b) selecting a number of virtual implant drill holes positions for corresponding implants using said model;

c) entering data related to the virtual implant drill hole positions into a computer controlled precision manufacturing device;

d) providing a rigid drill template body;

e) using said precision manufacturing device to provide a fixed orientation socket in said drill template body for each one of said implant drill hole positions selected in step b);

f) prior to the surgical operation, using said data on said virtual implant drill hole positions and said precision manufacturing device to make a dental implant superstructure having a number of dental implant abutting flanges interconnected by a bridge in a fixed configuration in which said dental abutting flanges are positioned in accordance with the virtual implant drill hole positions;

- g) using said drill guide to drill pilot holes in the patient's jawbone at said virtual implant drill hole positions;
- h) inserting an implant in each of said pilot holes; and
- i) installing the dental implant superstructure prefabricated in step f) on the implants inserted in the patients' jawbone.

10. A method as defined in claim 9, wherein the implants are inserted with the drill guide remaining in place over the patient's gum, and further comprising fixedly securing each implant to the drill guide after each implant has been inserted into the patient's jawbone.

11. A method as defined in claim 9, wherein step h) is effected by providing a screwdriver, and screwing each implant into the patient's jawbone until an abutment on the screwdriver abuts a cooperating abutment at an entry of each socket of said drill guide.